In The Claims:

1. (Original) An x-ray anode comprising:

a substrate material;

a target material; and

one or more graded CTE material layers coupling the substrate material to the target material.

2. (Original) The x-ray anode of claim 1 wherein the substrate material is a lightweight material.

3. (Original) The x-ray anode of claim 1 wherein the substrate material is a carbon-fiber material.

4. (Original) The x-ray anode of claim 1 wherein the target material is a refractory metal.

5. (Original) The x-ray anode of claim 1 wherein the target material is a tungsten alloy.

6. (Original) The x-ray anode of claim 1 wherein the target material is a molybdenum alloy.

7. (Original) The x-ray anode of claim 1 wherein each of the one or more graded CTE material layers is layered sequentially from the substrate material.

8. (Original) The x-ray anode of claim 7 wherein each of the one or more graded CTE material layers is layered horizontally from the substrate surface.

9. (Original) The x-ray anode of claim 1 wherein each of the one or more graded CTE material layers has an approximate coefficient of thermal expansion averaging between each of the adjacent materials.

10. (Original) The x-ray anode of claim 1 wherein each of the one or more graded CTE material layers has a differing coefficient of thermal expansion.

11. (Original) The x-ray anode of claim 10 wherein the differing coefficient of thermal expansion of 2x10-6/o C.

12. (Original) The x-ray anode of claim 10 wherein the differing coefficient of thermal expansion of 1x10-6/o C.

13. (Original) The x-ray anode of claim 10 wherein the differing coefficient of thermal expansion less than 1 x10-6/o C.

14. (Original) The x-ray anode of claim 1 wherein each of the one or more graded CTE material layers comprises tungsten, tungsten borides, tungsten carbides, molybdenum, molybdenum borides, molybdenum carbides, hafnium, hafnium carbides, or binders, together with chopped carbon fiber, wherein varying the coefficient of thermal expansion may be achieved by altering the proportions of the carbon fiber material.

15. (Original) The x-ray anode of claim 14 wherein the carbon fiber is chopped pitch fibers.

16. (Original) The x-ray anode of claim 1 wherein the x-ray anode is a rotating x-ray anode.

Claims 17 - 24 (Cancelled)

25. (New) An x-ray anode comprising:

a substrate material;

a target material; and

one or more graded CTE material stratum coupling the substrate material to the target material,

26. (New) The x-ray anode of claim 25 wherein each of the one or more graded CTE material stratum has a determined coefficient of thermal expansion thereby providing CTE strata between said substrate material and said target material.

27. (New) An x-ray anode comprising:

one or more graded CTE material layers;

a substrate material having a target location coated with a slurry mixture and dried, thereby forming one layer of said one or more graded CTE material layers; and

a target material deposited upon the last of said one or more graded CTE material layers, wherein said one or more graded CTE material layers, said substrate material and said target material are bonded.

28. (New) The x-ray anode of claim 27 wherein said slurry mixture for forming each of said one or more graded CTE material layers have different CTE determined by the percentage of carbon in said slurry mixture.